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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/945,558	08/30/2001	Stephen Jones	LIT-114/AME 1412	1831

32205 7590 08/10/2006

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EXAMINER	
DYKE, KERRI M	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/945,558	JONES ET AL.	
	Examiner	Art Unit	
	Kerri M. Rose	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12,14-23,26-29 and 31-36* is/are rejected.

7)☒ Claim(s) *11,13,24,25 and 30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. The indicated allowability of claims 1-36 is withdrawn in view of the newly discovered reference(s) to Schroeder and a different interpretation of the phrase "the first communication node is not limited to a telephone." Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-7, 9-10, 14, 17-23, 28-29, 33-34, and 36 are rejected under 35 U.S.C. 103(a) as being anticipated by Nahay (US 4,119,807) in view of Schroeder (US 3,293,369).

3. In regards to claim 1, Nahay discloses a system, comprising: a first communication node of a plurality of communication nodes (figure 1 element 10) connected with processorless central equipment (figure 1), wherein the first communication node sends one or more first portions of node-output information to the processorless central equipment (figure 1 element 14); wherein one or more additional communication nodes of the plurality of communication nodes send one or more additional portions of node-output information to the processorless central equipment (figure 1 element 14); wherein the first communication node receives from the processorless central equipment a portion of central-output information, wherein the portion of central-output information comprises the one or more first portions of node-output information and the one or more additional portions of node-output information (figure 1 elements 30 and 56). Column 3

line 64 – column 4 line 2 discloses the first node receiving output comprising one or more first portions and one or more additional portions.

Nahay discloses only telephones as the communication nodes. However, the phrase "node is not limited to a telephone", interpreted most broadly, does not preclude the node from being a telephone. Nahay does not disclose wherein the first communication ode and the processorless central equipment communicate through employment of a time division multiplexing format. Nahay uses TDM, but only after the analog signals are received by the central equipment. It is within the central equipment that the signals are sampled and multiplexed into TDM. The signals are necessarily converted back to analog signals before exit from the central equipment and communication back to the nodes.

Schroeder discloses a conferencing system in which re-conversion to an analog signal is not necessary (col. 2 lines 12-15). Column 2 line 70 – column 3 line 16 and figure 3A disclose how the signals from the communication nodes are converted to TDM before delivery to the central equipment (fig. 1 elements 32-36).

It would have been obvious to one of ordinary skill in the art to convert the analog signals of the communication nodes before the central equipment (as taught by Schroeder) as opposed to afterwards (as taught by Nahay) because doing so prevents the need to reconvert the signal to analog (Schroeder col. 2 lines 12-15) and prevents the need for digital to analog converters (Schroeder col. 2 lines 16-18).

4. In regards to claim 2, Nahay discloses the system of claim 1, wherein the first communication node sends the one or more first portions of node-output information to the processorless central equipment in a communication frame; wherein the first communication

node receives from the processorless central equipment the portion of central-output information in the communication frame (figure 2).

5. In regards to claim 3, Nahay discloses the system of claim 1, wherein the first communication node sends the one or more first portions of node-output information to the processorless central equipment no later than an interval before a start of a communication frame in which the first communication node receives from the processorless central equipment the portion of central-output information, wherein a time duration of the interval is minor relative to a time duration of the communication frame (figure 2). Column 3 lines 30-32 disclose that the interval is very short compared to the frame duration.

6. In regards to claim 4, Nahay discloses the system of claim 3 in combination with a second communication node of the one or more additional communication nodes (figure 1 element 10), wherein the second communication node sends one or more of the one or more additional portions of node-output information to the processorless central equipment (figure 1 element 16) no later than the interval before a start of a communication frame in which the second communication node receives from the processorless central equipment the portion of central-output information (figure 2), wherein the communication frame in which the first communication node receives from the processorless central equipment the portion of central-output information and the communication frame in which the second communication node receives from the processorless central equipment the portion of central-output information comprise substantially the same time duration. Figure 2 discloses that the receiving portion of central-output information comprises the same time duration regardless of the destination.

7. In regards to claim 5, Nahay discloses the system of claim 1, wherein the first communication node sends one of the one or more first portions of node-output information to the processorless central equipment within an interval before a time slot of a communication frame of the portion of central-output information, wherein a time duration of the interval is minor relative to a time duration of the communication frame; wherein the first communication node receives from the processorless central equipment the one of the one or more first portions of node-output information in the time slot of the communication frame of the portion of central-output information (figure 2 and column 5 line 1 – column 7 line 34).

8. In regards to claim 6, Nahay discloses the system of claim 5, wherein the time slot comprises a pre-assigned time slot of a set of time slots that comprises the communication frame of the portion of central-output information; wherein the first communication node sends one of the one or more first portions of node-output information to the processorless central equipment within the interval before the pre-assigned time slot of the set of time slots that comprises the communication frame of the portion of central-output information; wherein the first communication node receives from the processorless central equipment the one of the one or more first portions of node-output information in the pre-assigned time slot of the set of time slots that comprises the communication frame of the portion of central-output information (figure 2 and column 5 line 1 – column 7 line 34).

9. In regards to claim 7, Nahay discloses the system of claim 6 in combination with the processorless central equipment, wherein the processorless central equipment gates the one of the one or more first portions of node-output information with a clock to obtain the one of the one or more first portions of node-output information in the pre-assigned time slot of the set of

time slots that comprises the communication frame of the portion of central-output information (figure 1 and column 5 line 1- column 7 line 34).

10. In regards to claim 9, Nahay discloses the system of claim 5, wherein the time duration of the interval is less than five percent of the time duration of the communication frame. Figure 2 discloses that each frame is composed of 128 samples or intervals. It is therefore inherent that each interval occupies only 1/128 of the time duration of the communication frame, which is less than five percent.

11. Claim 10 is rejected upon the same grounds as claim 5.

12. In regards to claim 14, Nahay discloses the system of claim 1 in combination with a second communication node of the one or more additional communication nodes, wherein the second communication node sends one or more of the one or more additional portions of node-output information to the processorless central equipment, wherein the second communication node receives from the processorless central equipment the portion of central-output information (column 5 line 1 – column 7 line 34).

13. In regards to claim 17, Nahay discloses the system of claim 1, further comprising a copper passage of one or more copper passages that serve to connect the first communication node with the processorless central equipment, wherein the first communication node sends the one or more first portions of node-output information to the processorless central equipment over the copper passage. At the time Nahay filed and patented his invention, (1977-78), copper was the standard for phone lines. It is therefore implicit that Nahay expected to use his invention over copper passages.

14. Claim 18 is rejected upon the same grounds as claim 17.

15. Claim 19 is rejected upon the same grounds as claim 4.

16. Claim 20 is rejected upon the same grounds as claim 5.

17. In regards to claim 21, Nahay discloses the system of claim 1 in combination with the processorless central equipment, wherein the processorless central equipment within a communication frame employs the one or more first portions of node-output information and the one or more additional portions of node-output information to produce the portion of central-output information and sends the portion of central-output information to the plurality of communication nodes (figure 1 and column 5 line 1 – column 7 line 34).

18. In regards to claim 22, Nahay discloses the system of claim 1 in combination with the processorless central equipment and the one or more additional communication nodes, wherein the first communication node, the processorless central equipment, and the one or more additional communication nodes comprise a time division multiplexing architecture. Nahay discloses using time division multiplexing within the title and column 2 lines 12-14.

19. In regards to claim 23, Nahay discloses the system of claim 1 in combination with the processorless central equipment and a second communication node of the one or more additional communication nodes; wherein the first communication node sends one of the one or more first portions of node-output information to the processorless central equipment within an interval before a first pre-assigned time slot of a first set of time slots that comprises a first communication frame in which the first communication node receives from the processorless central equipment the portion of central-output information and within the interval before the first pre-assigned time slot of a second set of time slots that comprises a second communication frame in which the second communication node receives from the processorless central

equipment the portion of central-output information, wherein the first and second communication frames comprise an approximately same time duration, wherein a time duration of the interval is minor relative to the approximately same time duration of the first and second communication frames; wherein the second communication node sends one of the one or more additional portions of node-output information to the processorless central equipment within the interval before a second pre-assigned time slot of the first set of time slots that comprises the first communication frame in which the first communication node receives from the processorless central equipment the portion of central-output information and within the interval before the second pre-assigned time slot of the second set of time slots that comprises the second communication frame in which the second communication node receives from the processorless central equipment the portion of central-output information; wherein the processorless central equipment gates the one of the one or more first portions of node-output information with a clock to obtain the one of the one or more first portions of node-output information in the first pre-assigned time slot of the first set of time slots and in the first pre-assigned time slot of the second set of time slots; wherein the processorless central equipment gates the one of the one or more additional portions of node-output information with the clock to obtain the one of the one or more additional portions of node-output information in the second pre-assigned time slot of the first set of time slots and in the second pre-assigned time slot of the second set of time slots; wherein the first communication node receives the one of the one or more first portions of node-output information in the first pre-assigned time slot of the first set of time slots and the one of the one or more additional portions of node-output information in the second pre-assigned time slot of the first set of time slots; wherein the second communication node receives the one of the

one or more first portions of node-output information in the first pre-assigned time slot of the second set of time slots and the one of the one or more additional portions of node-output information in the second pre-assigned time slot of the second set of time slots (figures 1-2 and column 5 line 1 – column 7 line 34).

20. In regards to claim 28, Nahay discloses the system of claim 1 in combination with the processorless central equipment, wherein the processorless central equipment comprises first processorless-central equipment, wherein the portion of central-output information comprises a portion of first central-output information, and further comprising second processorless-central equipment that is connected with the plurality of communication nodes; wherein the first communication node sends the one or more first portions of node-output information to the first processorless-central equipment and to the second processorless-central equipment, wherein the one or more additional communication nodes send the one or more additional portions of node-output information to the first processorless-central equipment and to the second processorless-central equipment; wherein the first communication node receives the portion of first central-output information from the first processorless-central equipment (figure 1).

21. In regards to claim 29, Nahay discloses the system of claim 28, wherein the first communication node receives the portion of first central-output information from the first processorless-central equipment and a portion of second central-output information from the second processorless-central equipment, wherein the portion of second central-output information comprises one or more of: the one or more first portions of node-output information; and the one or more additional portions of node-output information (figures 1-2).

22. In regards to claim 33, Nahay discloses the system of claim 1 in combination with the plurality of communication nodes, wherein each of the plurality of communication nodes sends a corresponding one or more portions of node-output information to the processorless central equipment, wherein each of the plurality of communication nodes receives from the processorless central equipment the portion of central-output information, wherein the portion of central-output information comprises all the portions of node-output information (figures 1-2 and column 5 line 1 – column 7 line 34).

23. Claim 34 is rejected upon the same grounds as claim 1.

24. Claim 36 is rejected upon the same grounds as claim 33.

25. Claims 8 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nahay (US 4,119,807) in view of Sulzbacher et al. (US 4,835,764).

26. In regards to claims 8 and 35, Nahay discloses the system of claim 5 and the method of claim 34, but not wherein the time duration of the interval is approximately equal to a maximal expected signal-propagation delay between the processorless central equipment and the plurality of communication nodes over a respective plurality of operable passages.

Sulzbacher discloses setting the interval to the length of the signal propogration delay in column 1 lines 33-34.

It would have been obvious to one of ordinary skill in the art to modify the system of Nahay by setting the interval length equal to the signal propagation delay, as taught by Sulzbacher, because doing so allows for maximum range, as taught by Sulzbacher in column 2 lines 1 – 19.

27. Claims 12 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nahay (US 4,119,807) in view of Kopec et al. (US 5, 883,986).

28. In regards to claims 12 and 31-32, Nahay discloses the system of claim 1, wherein the first communication node sends one of the one or more first portions of node-output information to the processorless central equipment; wherein the first communication node receives from the processorless central equipment the one of the one or more first portions of node-output information in a time slot of a communication frame of the portion of central-output information; but not wherein the first communication node compares one or more values of the one of the one or more first portions of node-output information with one or more values from the time slot of the communication frame of the portion of central-output information to check correctness of operation of one or more portions of the system.

Kopec et al. discloses comparing the values in order to check correctness in column 2 lines 5-50.

It would have been obvious to one of ordinary skill in the art to modify the system of Nahay by including means for checking correctness, as taught by Kopec et al. because error detection allows for correction and presentation of a final, error-free product, as taught by Kopec et al. in column 2 lines 1-4.

29. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nahay (US 4,119,807) in view of Lang (US 5, 057,932).

30. In regards to claims 15-16, Nahay discloses the system of claim 1, but not further comprising a fiberoptic passage of one or more fiberoptic passages that serve to connect the first communication node with the processorless central equipment, wherein the first communication node sends/receives the one or more first portions of node-output information to the processorless central equipment over the fiberoptic passage.

Lang discloses using fiberoptic passages in the abstract.

It would have been obvious to one of ordinary skill in the art to modify the system of Nahay in order to use fiberoptics, as taught by Lang because fiber carries signals great distances faster and with more accuracy, as disclosed by Lang in column 8 lines 15-17.

31. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nahay (US 4,119,807) in view of Thompson (3,649,763).

32. In regards to claim 26, Nahay discloses the system of claim 1 in combination with the processorless central equipment, wherein the first communication node sends one of the one or more first portions of node-output information to the processorless central equipment in a time slot, not assigned to the first communication node, of a first set of time slots that corresponds to a time slot, not assigned to the first communication node, of a second set of time slots of the portion of central-output information; but not wherein the processorless central equipment withholds the one of the one or more first portions of node-output information from the time slot, not assigned to the first communication node, of the second set of time slots of the portion of central-output information through clock gating of the one or more first portions of node-output

information in the time slot, not assigned to the first communication node, of the first set of time slots.

Thompson discloses preventing the information from entering a time slot it is not assigned to in column 22 lines 46-51.

It would have been obvious to one of ordinary skill in the art to modify the system of Nahay in order to prevent the portion of information from entering a time slot it is not assigned to, as taught by Thompson because doing so prevents the erroneous overwriting of information, as taught by Thompson in column 1 lines 45-55.

33. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nahay (US 4,119,807) in view of Layland et al. (US 4,112,497) .

34. In regards to claim 27, Nahay discloses the system of claim 1 in combination with the processorless central equipment, wherein the processorless central equipment employs one of the one or more first portions of node-output information, and a clock, but not a plurality of flip-flops to determine a zero or more amount of delay to assert for relative synchronization between a stable part of the one of the one or more first portions of node-output information and a clock edge that is employed to produce the portion of central-output information.

Layland et al. disclose using flip-flops for synchronization in column 11 lines 45-55.

It would have been obvious to one of ordinary skill in the art to modify the system of Nahay in order to synchronize the information and clock using flip-flops, as taught by Layland et al. because correlation of the signal is crucial, as taught by Layland et al. in column 1 lines 15-34

Allowable Subject Matter

35. Claims 11, 13, 24, 25, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

36. This action is NOT made final because of the new rejections applied to claims 37-39.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kerri M. Rose whose telephone number is (571) 272-0542. The examiner can normally be reached on Monday through Thursday, 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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